

Serial No.: 10/066,738
Inventor(s): Ramesh Keshavaraj

U.S. PTO Customer No. 25280
Case No.: 2102REI

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Ramesh Keshavaraj
Serial Number: 10/066,738
Filed: February 4, 2002
For: **AIRBAG FABRIC POSSESSING VERY LOW COVER FACTOR**
Group Art Unit: 1771
Examiner: Singh, Arti. R.

Certificate of Facsimile Transmission

I hereby certify that this correspondence, and all correspondence referenced herein is being transmitted by facsimile to the United States Patent and Trademark Office at 571-273-8300 on the date as set forth below.

Date: Nov. 7, 2006

Name: James M. Robertson

Signature: 

BRIEF ON APPEAL UNDER 37 CFR § 41.37

Mail Stop Appeal Brief-Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-14501

Sir:

The following appeal brief is submitted pursuant to the Notice of Appeal filed on April 7, 2006 from the Final Action dated October 7, 2005. A request/petition for a five (5) month extension accompanies this submission.

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REAL PARTY IN INTEREST

The real party in interest is Milliken & Company, P.O. Box 1926, 920 Milliken Road, Spartanburg, South Carolina 29303 (Assignee).

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1, 2, 6-9, 11, 12, 18-21, 25, 28, 29, 32, 33, 36, 37, 40 and 41 are pending and have been finally rejected. These claims are the subject of the instant appeal.

Claims 3-5, 10, 13-17, 22-24, 26, 27, 30, 31, 34, 35, 38, 39, 42 and 43 were previously cancelled.

A copy of the current claims is attached hereto as the Claims Appendix.

STATUS OF AMENDMENTS

No amendments were submitted subsequent to final rejection.

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SUMMARY OF CLAIMED SUBJECT MATTER

The instant application is a reissue application based on US patent 6,294,487. Accordingly, all references are in relation to that patent document.

Independent claim 1 is directed to an airbag fabric for incorporation within an airbag cushion. The airbag fabric includes a woven fabric substrate, at least a portion of which is coated or laminated. As set forth at Column 3 on page 2, lines 15-49, the woven fabric substrate has a cover factor below about 1600. As noted at Column 3, on page 2, lines 50-65, the fabric substrate is made from yarns from about 100 to about 630 denier. The air permeability of the airbag fabric is less than about 0.5 cfm under 124 Pa pressure at about 25° C (Col. 3, lines 21-23). The term "cover factor" is defined at Column 2, on page 1, lines 29-34 as "the product of the number of warp yarns per inch of fabric and the square root of the denier of the warp yarn all added to the product of the number of weft yarns per inch of fabric and the square root of the denier of the weft yarn."

Independent claim 21 is directed to an airbag fabric for incorporation within an airbag cushion. As noted at Column 3 on page 2, line 66 – Column 4 on page 2, line 2 and Column 4 on page 2, line 52-56, the airbag fabric includes a woven fabric substrate, at least a portion of which is coated or laminated with materials selected from the group consisting of polyurethane, polyacrylate, polyamide, polyester, and copolymers thereof. The woven fabric substrate has a cover factor below about 1600. As noted at Column 3 on page 2, lines 50-65, the fabric substrate is made from yarns from about 100 to about 630 denier. The air permeability of the airbag fabric is less than about 0.5 cfm under 124 Pa pressure at about 25° C (Col. 3, lines 21-23). The term "cover factor" is defined at Column 2 on page 1, lines 29-34 as "the product of the number of warp yarns per inch of fabric and the square root of the denier of the warp yarn all added to the product of the number of weft yarns per inch of fabric and the square root of the denier of the weft yarn."

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Independent claim 40 is directed to an airbag fabric for incorporation within an airbag cushion. The airbag fabric includes a woven fabric substrate, at least a portion of which is coated or laminated. As set forth at Column 3 on page 2, lines 15-49, the woven fabric substrate has a cover factor below about 1600. The fabric substrate is made from fibers having deniers equal to or less than 525. Examples 1-5 on page 3 describe representative fabrics. The air permeability of the airbag fabric is less than about 0.5 cfm under 124 Pa pressure at about 25° C (Col. 3 on page 2, lines 21-23). The term "cover factor" is defined at Column 2 on page 1, lines 29-34 as "the product of the number of warp yarns per inch of fabric and the square root of the denier of the warp yarn all added to the product of the number of weft yarns per inch of fabric and the square root of the denier of the weft yarn."

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether or not claims 1, 2, 6-9, 11, 12, 18-21, 25, 28, 29, 32, 33, 36, 37, 40 and 41 are properly rejected under 35 U.S.C. 102(e) as being anticipated by US 2002/0065367 A1 to Parker.
2. Whether or not claims 1, 2, 6-9, 11, 12, 18-21, 25, 28, 29, 32, 33, 36, 37, 40 and 41 are properly rejected under 35 U.S.C. 102 (b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Nishimura et al. (US 5,470,106).

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ARGUMENT

A. Claims 1, 2, 6-9, 11, 12, 18-21, 25, 28, 29, 32, 33, 36, 37, 40 and 41 are not anticipated by US 2002/0065367 A1 to Parker under 35 U.S.C. 102(e).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. (MPEP § 2131). Appellant respectfully submits that Parker does not satisfy this rigorous standard with regard to the claims as now presented.

Each of the independent claims specifically recites a woven fabric substrate having a cover factor below about 1600. As noted above and explained in the specification, The term "cover factor" is defined in the specification at Column 2 on page 1, lines 29-34 as " the product of the number of warp yarns per inch of fabric and the square root of the denier of the warp yarn all added to the product of the number of weft yarns per inch of fabric and the square root of the denier of the weft yarn."

As best understood, the use of a woven substrate fabric having a cover factor below about 1600 is in no way expressly or inherently described in the cited reference. In the final action the Examiner states that cover factor may be calculated in many ways and is the resultant property of the weave structures, the denier of the yarns, the

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structure of the yarns (flat or round) and the filaments that comprise the fibers or yarns. The Examiner then draws the following conclusion: "Therefore, if all these criteria are the same, then the cover factor must be exactly or about Applicant's claimed range of below 1600." Appellant respectfully submits that this reasoning by the Examiner is faulty and inconsistent with the standards required to support an anticipation rejection.

As regards the Examiner's position that cover factor may be calculated in many ways, Appellant respectfully notes that the specification itself sets forth the applicable calculation. Thus, the application defines the relevant calculation technique. As best understood, the Examiner appears to be relying on an argument of inherency. However, the Examiner has pointed to no teachings within the cited reference that are adequate to support the basic proposition that the criteria used in the fabric of that reference are the same as those used in the substrate fabric of the present invention. Thus, it is not seen how the Examiner can conclude that the substrate fabrics are the same.

Appellant respectfully notes that inherency cannot be based on the mere possibility that the claimed characteristic may be present in the cited art. Rather as noted at MPEP §2112(IV), "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere

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fact that a certain thing may result from a given set of circumstances is not sufficient.' "

In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Appellant must respectfully submit that this standard is in no way satisfied by the limited extrinsic evidence relied on by the Examiner. Certainly, the limited extrinsic evidence regarding Parker can just as easily support the position that the fabrics used therein have cover factors in excess of 1600. Thus the rejection appears to be deficient and should not be maintained.

B. Claims 1, 2, 6-9, 11, 12, 18-21, 25, 28, 29, 32, 33, 36, 37, 40 and 41 are not properly rejected as being anticipated under 35 U.S.C. 102 (b) or obvious under 35 U.S.C. 103(a) over Nishimura et al. (US 5,470,106).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. (MPEP § 2131). Furthermore, in order to establish a *prima facie* case of obviousness there must be some suggestion or motivation that would lead to the claimed invention. In addition, all the claim limitations must be taught or suggested by the prior art (MPEP § 2142). Appellant respectfully submits that Nishimura et al. does not satisfy these standards with regard to the pending claims of the instant application.

As best understood, the Examiner is relying on the disclosure at Col. 10, lines

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19-21 of Nishimura et al. stating that that "the woven fabric exhibits a cover factor of 1,050 to 1,400 both in the warp and weft directions thereof" (emphasis added), and that "it is preferable that the warp and weft densities of the woven fabric be equal to or close to each other." As argued in an earlier response to this rejection, the fact that Nishimura et al. notes distinct and potentially different cover factors for the warp direction and the weft direction appears to reflect that the overall cover factor when calculated pursuant to the convention as set forth in the current application is actually two times 1,050 to 1,400, or 2,100 to 2,800. Therefore, Nishimura fails to disclose or suggest the claimed invention.

In the final rejection after being presented with this argument the Examiner stated as follows:

Cover factor is not an additive property, yarns overlap when woven and thus would reduce the actual number if it were added. It can be calculated in a number of ways, but under no provision does the cover factor of one direction added to the cover factor of the other direction equal the sum of those quantities."

Although these statements are somewhat confusing, as best understood it appears that the Examiner has taken the position that the term "cover factor" cannot have the meaning as set forth by the definition in the specification of the current application.

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Appellant notes that it is a well-established axiom in patent law that an applicant is free to be his or her own lexicographer. When there is more than one definition for a term, it is incumbent upon the applicant to make clear which definition is being relied upon. MPEP §2173.05(a)III. Appellant respectfully submits that this is exactly what has been done in the instant case. Specifically, in the present application the term "cover factor" is defined at Column 2 on page 1, lines 29-34 as "the product of the number of warp yarns per inch of fabric and the square root of the denier of the warp yarn all added to the product of the number of weft yarns per inch of fabric and the square root of the denier of the weft yarn."

It is respectfully submitted that examination based on the terms of the claims as defined in the specification immediately confirms Applicant's interpretation of the teachings in that reference and reveals the deficiency in the outstanding rejection. Specifically, in Nishimura et al. Col. 10, lines 23-29 states that "The cover fabric of the woven fabric in the warp direction refers to a product of a square root of the thickness in denier of the warp yarns with a warp density in yarns/2.54 cm (Inch). The cover fabric of the woven fabric in the weft direction refers to a product of a square root of the thickness in denier of the weft yarns with a warp density in yarns/2.54 cm (inch)." Thus the cover factor numbers in Nishimura et al. being used by the Examiner are added together under the definition used in the present application. The Examiner has presented no reasoning as to why the definition being used by the present application is unacceptable.

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Appellant respectfully submits that the Examiner is required to consider the claims in light of the definitional language of the instant application. The appropriate evaluation is to consider whether or not the teachings of the cited reference fall within the scope of the present claims using the definition of "cover factor" from the present application. Applying this examination approach, it is respectfully submitted that Nishimura et al. fails in any way to teach or suggest a woven fabric substrate having a cover factor below about 1600 as required by the claim. In fact, Nishimura et al. appears to teach directly away from such constructions by stating that when a cover factor is less than 1,050 (2,100 using the definition from the present application) the resultant woven fabric exhibits unsatisfactory airtightness. Accordingly, it is respectfully submitted that Nishimura et al. fails to support a position of anticipation or obviousness.

Conclusion

For the above reasons, Appellants respectfully request the Appeal Board to reverse the decision of the Examiner.

Extension / Authorization to Charge Deposit Account

A request/petition for a five (5) month extension accompanies this submission. In the event that additional time is required to have the papers submitted herewith for

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the above referenced application to be considered timely, Applicant hereby petitions for any additional time required to make these papers timely and authorization is hereby granted to withdraw any additional fees necessary for this additional time from our Deposit Account No. 50-1424.

In the event that there are additional fees associated with the submission of these papers, Applicant hereby authorizes the Commissioner to withdraw those fees from our Deposit Account No. 50-1424.

Respectfully submitted,



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CLAIMS APPENDIX

1. An airbag fabric for incorporation within an airbag cushion comprising a woven fabric substrate, at least a portion of which is coated or laminated, wherein said woven fabric substrate has a cover factor below about 1600, and is made from yarns from about 100 to about 630 denier, and wherein the air permeability of said airbag fabric is less than about 0.5 cfm under 124 Pa pressure at about 25° C.

2. The airbag fabric of claim 1 wherein said woven fabric substrate is coated or laminated with a coating or film selected from the group consisting of polyurethane, polyacrylate, polyamide, polyester, and copolymers thereof.

3-5 (Canceled)

6. The airbag fabric of claim 2 wherein said coating or laminate comprises polyurethane.

7. The airbag fabric of claim 6 wherein the thickness of said coating or laminate is from 0.1 to about 3.5 mils.

8. An airbag cushion comprising the airbag fabric of claim 6.

9. An airbag cushion comprising the airbag fabric of claim 7.

10. (Cancelled)

11. The airbag fabric of claim 6 wherein the thickness of said coating or laminate is from 0.4 to about 3.5 mils.

12. An airbag cushion comprising the airbag fabric of claim 11.

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13 -17 (Canceled)

18. The airbag fabric of claim 1 wherein the thickness of said coating or laminate is from 0.1 to about 3.5 mils.

19. An airbag cushion comprising the airbag fabric of claim 18.

20. An airbag cushion comprising the airbag fabric of claim 1.

21. An airbag fabric for incorporation within an airbag cushion comprising a woven fabric substrate, at least a portion of which is coated or laminated with materials selected from the group consisting of polyurethane, polyacrylate, polyamide, polyester, and copolymers thereof, wherein said woven fabric substrate has a cover factor below about 1600, and comprises yarns from about 100 to about 630 denier, and wherein the air permeability of said airbag fabric is less than about 0.5 cfm under 124 Pa pressure at about 25° C.

22-24 (Canceled)

25. The airbag fabric of Claim 21 wherein said coating comprises polyurethane.

26-27 (Canceled)

28. The airbag fabric of Claim 21 wherein the thickness of said coating is from 0.1 to about 3.5 mils.

29. The airbag fabric of Claim 25 wherein the thickness of said coating is from 0.1 to about 3.5 mils.

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30-31 (Canceled)

32. An airbag cushion comprising the airbag fabric of Claim 21.

33. An airbag cushion comprising the airbag fabric of Claim 25.

34-35 (Canceled)

36. An airbag cushion comprising the airbag fabric of Claim 28.

37. An airbag cushion comprising the airbag fabric of Claim 29.

38-39 (Canceled)

40. An airbag fabric for incorporation within an airbag cushion comprising a woven fabric substrate, at least a portion of which is coated or laminated, wherein said woven fabric has a cover factor below about 1600 and fibers having deniers equal to or less than 525, and wherein the air permeability of said airbag fabric is less than about 0.5 cfm under 124 Pa pressure at about 25° C.

41. The airbag fabric of claim 40 wherein said woven fabric substrate is adhered to a film comprising materials selected from the group consisting of polyurethane, polyacrylate, polyamide, polyester, and copolymers thereof.

42. (Canceled)

43. (Canceled)

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EVIDENCE APPENDIX

None

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RELATED PROCEEDINGS APPENDIX

None